

REMARKS

1. Claims 1-33 and 36-38 are pending. Claims 1-9, 11, 14, 21, 27-32, and 36-38 have been amended. No claims have been canceled, and no new claims have been added. Thus, claims 1-33 and 36-38 remain pending. Applicants respectfully request reconsideration of the claims in view of the above amendments and the following remarks.
2. Claims 1-2, 4-11, 13, 29-30, 32, 36, and 38 have been rejected under 35 U.S.C. 102(b) as being anticipated by *Ehring* (U.S. 2005/0097008 A1). Claims 3, 12, 14-20, 25-28, 31, 33, and 37 have been rejected under 35 U.S.C. 103(a) as being unpatentable over *Ehring* in further view of *Wolff* (U.S. 5,774,887). Claim 21 has been rejected under 35 U.S.C. 103(a) as being unpatentable over *Ehring* in further view of *Wolff* and *Ravishankar* (U.S. 5,774,887). Claims 22 and 23 have been rejected under 35 U.S.C. 103(a) as being unpatentable over *Ehring* in further view of *Wolff* and *Hanson* (“Saving Time With Global Templates”). Claim 24 has been rejected under 35 U.S.C. 103(a) as being unpatentable over *Ehring* in further view of *Wolff*, *Hanson*, and *Oracle* (“Getting Started With Oracle Change Management Pack”).

(A) The claimed subject matter is directed to apparatus and corresponding methods that automatically generate, during the process of data capture, (1) a visual display form layout having user input areas corresponding to the data elements and (2) physical positioning of the user input areas on such display corresponding to the hierarchical structure of the data elements as defined in the data capture definition file.

The claimed invention relates generally to a self-contained platform-independent data capture definition file that is used during runtime of a data capture process for determining, among other things, the form layout and physical positioning of user input areas for visual displays presented to a user. In essence, the data capture definition file specifies the intent of the data capture requirements (e.g., the data elements required during data capture as well as logical relationships among the data elements in a

hierarchical structure) without specifying the visual displays per se, so data capture processes running on different platforms can dynamically generate platform-appropriate visual displays that implement the intended data capture requirements. For example, a layperson may understand the types of data needed for a particular venture and the relationships among different data elements but generally does not understand (or perhaps even care) how, or on what platform(s), the data is to be captured. Thus, in accordance with the claimed invention, the layperson can specify the data elements to be captured and the relationships among the data elements in a hierarchical structure, a self-contained platform-independent data capture definition file can be automatically generated based on the layperson's specification, and the data capture definition file can be used to automatically generate visual displays for capturing the data elements during runtime of data capture processes on various platforms. Also, because the data capture definition file is self-contained and platform-independent, the data capture definition file can be carried out on various computer platforms independently of the system used to generate the data capture definition file.

Independent claims 1, 14, 29, 30, 31, 32, 36, 37, and 38 have been amended to expressly refer to a self-contained platform-independent data capture definition file. Such amendment merely reiterates an express disclosure, in the original application, of the fact that a data capture definition file is a) self-contained and platform independent, and that it b) defines for each data element, the type specification and logical hierarchical position relative to other data elements in a hierarchical structure. See at least paragraphs [0025], [0092], [0109], [0134], and [0135].

Claims 2-9, 11-13, 27, and 28 have been amended to comport with amended claim 1. Claim 21 has been amended to comport with amended claim 14. Claim 27 has been amended to remove an extraneous reference numeral. Claims 30-32 are additionally amended to refer to computer processes. These recitations merely reiterate that the claimed methods are inherently computer-based, as was already expressly disclosed in the original specification (see, e.g., paragraphs [0004], [0008], and [0026]).

Thus, claims of the present application are directed to an unprecedented approach to capturing data from users: for the first time, a computer platform-*dependent* system is

enabled to *automatically* determine, based on an input of a self-contained and computer-platform *independent* data capture definition file, in what form and position to display user input areas corresponding to specified data elements, in a manner corresponding to a defined logical hierarchical structure.

(B) The *Ehring* reference fails both as an anticipating reference and as a primary reference in the obviousness rejection.

The Examiner asserts that *Ehring* teaches all of the limitations of independent claims 1, 29, 30, 32, 36, and 38 and also asserts *Ehring* against independent claims 14, 31, 33, and 37. Applicants respectfully submit that, for at least the following reasons, *Ehring* fails to teach or otherwise suggest a self-contained platform-independent data capture definition file and use of such a file for automatically generating visual displays, as claimed.

*(1) The use of *Ehring* for rejections of pending claims is improper at least because it fails even to teach an apparatus or process that automatically determines both a form layout for a visual display and a physical positioning of the user input areas on such a display.*

Ehring is concerned with generating a sequence of web pages having customized content specific to individual users. In addressing the problem of generating a sequence of web pages, *Ehring* fails to teach automatic implementation of critical functions by a system. In fact, *Ehring* teaches manual specification of the layouts of the various objects that make up the web-page and the manual specification of the rules for deciding which pages will be displayed.

Specifically, *Ehring* describes a system in which a set of rules, determining dynamically at run-time which content will be displayed to which viewers, is formulated by the author of the web-site (see paragraph [0012]), i.e., formulated *manually*. The author of the web-site is possibly also able to formulate when or in what order that content will be delivered (see paragraph [0015]).

Although, as stated in paragraph [0042], the *Ehring* system dynamically determines the content and organization of web pages displayed, it is the web-site author

who creates the content and organization and stores them in various system databases.

Indeed, all of the following is determined by the author, i.e. *manually*:

- "why" conditions, which dynamically determine the content a user will receive (see paragraphs [0048], [0049]);
- "who" conditions, which dynamically determine who will receive dynamically rendered objects (see paragraphs [0050], [0051]); and
- "when" conditions, which determine when dynamically rendered objects should be delivered to a user (see paragraphs [0052], [0053]).

Also worth noting is the fact that it is the author who creates a hierarchy of content objects and elements which together make up a page 400 or a template 410 (see Fig. 3 of *Ehring*). Specifically, *Ehring* recites in paragraph [0080]:

[Templates are designed by the author] as different maps of the same page ... used to determine the size and location of certain content objects that comprise the page.

Thus, it is clear that, in *Ehring*, it is up to the author – not to the system – to specify the layout of the various objects that will make up a page (such as one shown in Fig. 4) and the rules for deciding, at run time, which pages will be displayed, in what temporal order the pages will be displayed, what the content of those pages will be, and which page layout or template will be used, based on the "why", "who" and "when" conditions. Implementation of all these functions is, therefore, manual. In fact, by teaching a manual process—rather than an automated process—of determining a form layout and physical positioning of the user input areas on a visual display, the *Ehring* reference teaches away from the requirement of claim 1 for an automatic process of doing so. Teaching away from the subject matter claimed is indicative of non-obviousness. *KSR International Co. v. Teleflex Inc.*, 550 US 398, 127 S.Ct. 1727, 1739-1740, 82 U.S.P.Q.2d 1385 (2007), citing *United States v. Adams*, 383 U.S. 39, 50-51 (1966).

(2) The use of Ehring reference for rejections of pending claims is improper at least because it fails to disclose or suggest that automatic determination performed by the system is based on a logical hierarchical structure defined in a self-contained and platform-independent data capture definition file.

Having failed to teach the automatic determination, by the system, of a form layout and physical positioning of the user input areas on a display, *Ehring* also fails to teach the more specific requirement of claim 1 that a self-contained platform-independent data capture definition file, serving as a basis for such automatic determination, define the hierarchy of the data elements. In *Ehring*, the decision on both the layout of the pages / templates (alluded to in the Office Action as the "hierarchy" of objects, in reference to paragraphs [0061]-[0063]) and the objects that populate those pages are based on the rules that the author specifies. Even if hierarchical relationships between the primitive objects 440 or elements 430 in web pages 400 (some of which might be user fields) were to be implied, such hierarchical relationships would be still inferred only from a page or template hierarchy into which the objects will be placed, and not from a platform-independent data capture definition file. The *Ehring* system simply does not generate or use a self-contained platform-independent data capture definition file as in the claims, let alone a self-contained platform-independent data capture definition file defining a hierarchical structure of the data elements.

(3) The Ehring reference is not enabling and cannot serve as a basis for a prior art rejection.

It has long been established that in order for a reference to provide a basis for claim rejection for anticipation or obviousness, the reference must place one of ordinary skill in the art in possession of the technology advanced as a basis for asserting the reference. In other words, the reference must be enabling for what it is said to teach. *Seymour v. Osborne*, 78 U.S. 516, 555 (1870); *In re Hoeksema*, 399 F.2d 269, 274 (CCPA 1968). A mere disclosure of a structure, absent teachings of how to make that structure, is not enabling unless the process that one of ordinary skill in the art would employ to make that structure is known. Thus, in *Hoeksema*, no prior art effect was found

in a prior publication that merely showed a desired end result, with no guidance as to how one of ordinary skill in the art might achieve it. 339 F.2d at 274. See also *In re Brown*, 329 F.2d 1006, 1011 (CCPA 1964) (“mere printed conception” or “mere printed contemplation of a compound,” absent teaching a method of making it, is not prior art). Furthermore, disclosure is not within the possession of the public when another’s inventive skill is needed to make and use that which is purportedly taught. *In re Brown*, *supra*, 329 F.2d at 1011.

Because *Ehring* fails to teach one of ordinary skill how to practice the subject matter claimed herein—requiring automatic processes, not manual processes—to which *Ehring* is applied, *Ehring* is simply not an enabling reference, and fails to provide a basis for the rejections.

In summary, then, with respect to claim 1 of the application, *Ehring* fails to teach apparatus comprising “means for receiving as input a self-contained platform-independent data capture definition file specifying data elements required during data capture, each data element having a type specification and a logical relationship relative to other data elements in a hierarchical structure defined in the data capture definition file.” *Ehring* also fails to teach “means for automatically generating a plurality of visual displays for presentation to a user during execution of a data capture process, each visual display having an automatically determined form layout comprising a plurality of user input areas corresponding to the data elements, in which the form layout and physical positioning of the user input areas on each display are determined, during runtime of the data capture process from information in the data capture definition file, in a manner corresponding to the defined logical hierarchical structure.” Moreover, the *Ehring* reference is not enabling.

Therefore, the amended claim 1 remains patentable over the cited prior art. The subject matter claimed in independent claims 14, 29, 30, 31, 32, 33, 36, 37 and 38, each of which contains recitations similar to that of claim 1, remains patentable over the cited prior art at least for the reasons discussed in reference to claim 1. Claims 2-13 dependent from claim 1 and other claims dependent from claims 14, 29, 30, 32, 36-38 are patentable over the prior art at least for the same reasons.

Additionally, *Ehring* does not teach or suggest that the self-contained platform-independent data capture definition file includes a functional specification of rule-based actions to be taken during execution of the data capture process, as required by claim 4. Instead, *Ehring* teaches that the rule component is provided in an application rules database 280 which includes a built-in system infrastructure including primitive rules written in a language implemented by the system. See paragraph [0060] of *Ehring*. Claim 4 remains patentable over *Ehring* at least for this reason.

Additionally, paragraphs [0177] and [0178] of *Ehring* referred to in the office action do not appear to disclose the limitations of claim 5. Specifically, the cited passage does not refer to the data capture definition file including a functional specification of a data model defining the bindings of data elements with an output message format. Instead, paragraphs [0177] and [0178] refer to the binding of server-side objects to client-side HTML code within the web page delivered to the user. In *Ehring*, this appears to be a way of capturing data regarding the user behavior information 325 by behavior manager 240 most of which has nothing to do with a hierarchical structure of data elements in self-contained data capture definition file. Claim 5 remains patentable over *Ehring* at least for this reason.

Additionally, contrary to the assertion in the Office Action, page 5, Applicants find no teaching or disclosure, in paragraphs [0043] and [00061] of *Ehring*, related to the data capture definition file including a functional specification of data exchange requirements according to a form definition standard, as required by claim 6. These paragraphs instead discuss types of the web-page content and portions of content object database storing the author-created content objects, respectively. Claim 6 remains patentable over *Ehring* at least for this reason.

Moreover, contrary to the assertion in the Office Action, page 5, Applicants find no teaching or disclosure, in paragraph [0018] of *Ehring*, of means for enabling automatic building of portfolios of the data capture definition file according to a form definition standard, as required in claim 7. Instead, in the cited paragraph, *Ehring* discusses an embodiment of the system architecture. Claim 7 remains patentable over *Ehring* at least for this reason.

Additionally, according to the paragraphs [0063] to [0066] of *Ehring* used as a basis for a rejection of claim 8, the managers that interpret application rules at run time determine which content will be displayed, which pages will be displayed and in which order. In performing such interpretation, *Ehring* teaches using the application rules database 280, not rule-based actions incorporated into a self-contained, platform-independent data capture definition file as required in claim 8. Claim 8 remains patentable over *Ehring* at least for this reason.

Also, although paragraphs [0134] and [0135] of *Ehring* do refer to receiving user behavior information and processing that information into higher level variables resolved according to relevant application rules, Applicants find no teaching or suggestion of incorporating binding definitions into a self-contained, platform-independent data capture definition file, as required by claim 9. Claim 9, therefore, remains patentable over *Ehring* at least for this reason.

Additionally, with respect to claim 10, paragraphs [0043] and [0061] *Ehring*, as discussed above in reference to claim 6, make no mention of means for ensuring that a specification of data elements in a data capture definition file complies with a form definition standard. Claim 10 remains patentable over *Ehring* at least for this reason.

Furthermore, in reference to Fig. 8 and paragraphs [0127] through [0130], used as a basis for rejection of claim 11, *Ehring* does not disclose that the layout of each of the succession of displays is determined “according to the elements and their hierarchical structure defined in the data capture definition file,” as required by claim 11. Rather, the *Ehring* system merely decides at runtime which of a set of page layouts or template layouts to use according to the application rules executed at run time. Claim 11 remains patentable over *Ehring* at least for this reason.

Finally, contrary to the assertion in the Office Action, page 6, Applicants respectfully submit that paragraphs [0066] and [0067] of *Ehring* do not disclose rule-based actions that are defined in a self-contained, platform independent data capture definition file, as required by claim 13. Claim 13 remains patentable over *Ehring* at least for this reason.

(C) Neither *Wolff*, *Ravishankar*, *Hanson*, nor *Oracle* teach or otherwise suggest generation or use of a self-contained platform-independent data capture definition file and so the claims are patentable over *Ehring* both alone and in combination with *Wolff*, *Ravishankar*, *Hanson*, and/or *Oracle*.

Wolff describes a customer service system that generates a sequence of forms based on a required task entered by a user. The forms are constructed via an object-oriented programming language based on a series of hierarchical objects (see col. 3, line 65 to col. 4, line 2), as clearly illustrated in Fig. 2. Groups of objects are combined to create a form-type object that represents a single electronic form (see col. 4, line 65 to col. 5, line 1). Slots within form objects include pointers to other objects that will appear on the display screen within the form during the data capture stage (see col. 6, line 23 to 27). The forms of *Wolff* appear to have pre-formatted layouts (Figs. 6 and 7) and the main objective of the reference is how to maintain the correct sequence of form completion.

Wolff might, in a fashion analogous to the *Ehring* reference, be considered as applicable to data capture from users. Yet *Wolff*, despite its potentially general applicability, says not a single word about a self-contained, platform-independent data capture definition file that defines the type specifications and logical relationships of data elements to be captured during a data capture process, as in the claims.

Similarly, *Wolff* does not disclose how to automatically determine both a form layout for a visual display and a physical positioning of the user input areas on a display presented to the user, as in the claims. Therefore, *Wolff* cannot remedy the lack of enablement in the *Ehring* reference.

Ravishankar, *Hanson*, and *Oracle* are cited by the Examiner for disclosing such things as document ownership/execution rights and the use of templates, but, regardless, these references fail to teach or otherwise suggest a self-contained platform-independent data capture definition file as in the claims.

Thus, the references cited by the Examiner fail to teach or otherwise suggest, alone or in combination, at least the generation and use of a self-contained platform-independent data capture definition file as claimed, and therefore fail to establish both anticipation and a *prima*

facie case for obviousness. For at least the foregoing reasons, Applicants respectfully submit that the pending claims are allowable over the art relied upon in the Office Action.

3. A supplemental information disclosure statement is being filed herewith to disclose U.S. Patent No. 5,796,401 (*Winer*). This patent was cited by the Examiner in the corresponding European patent application. Applicants respectfully submit that *Winer* does not teach or otherwise suggest a self-contained platform-independent data capture definition file as in the claims. Rather, *Winer* relates generally to automatic resizing of objects to fit a particular display screen (see, for example, *Winer* at column 2, line 58).

4. All pending claims are believed to be in a form suitable for allowance. Therefore, the application is believed to be in a condition for allowance. The Applicants respectfully request early allowance of the application. The Applicants request that the Examiner contact the undersigned if it will assist further examination of this application.

5. Applicant petitions for a two month extension of time. In the event that a further extension is needed, this conditional petition of extension is hereby submitted. The Applicants request that deposit account number 19-4972 be charged for any fees that may be required for the timely consideration of this application.

Respectfully submitted,

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